三个物理方程的新的表示方法

黄山

(芜湖职业技术学院， 安徽， 芜湖，241003)

摘要：发现电子静止质量和基本电荷的新解释，那么薛定谔方程、爱因斯坦方程、黑体辐射公式就会有新的表示方法。

关键词：薛定谔方程，爱因斯坦方程，黑体辐射公式。

大概一年前，我觉得这个可能是最基础的物理等式了，即，

$$\begin{cases} \dfrac{(\mathrm{m_e})(\mathrm{R_\infty})(\mathrm{G_N})}{(\mathrm{a_0})} = 2\pi(\mathrm{m_e})[\alpha_o](\mathrm{c}) , \\ \dfrac{(\mathrm{e_o})(\mathrm{R_\infty})}{4\pi(\varepsilon_0)(\mathrm{a_0})} = (\mathrm{c}) , \\ \dfrac{1}{2}(\mathrm{m_e})[\alpha_o]^2(\mathrm{c})^2 = \dfrac{(\mathrm{m_{atom}})(\mathrm{c})^2}{2\pi(\mathrm{R_\infty})} , \end{cases}$$

可能还要加上这俩，

$$\begin{cases} \dfrac{(\mathrm{e_o})^2(\mathrm{R_\infty})}{4\pi(\varepsilon_0)(\mathrm{a_0})} = \dfrac{(\mathrm{m_e})(\mathrm{R_\infty})(\mathrm{G_N})}{(\mathrm{K_B})} , \\ 2\pi(\mu_\mathrm{B})(\mathrm{m_e}) = (\mathrm{m_e})(\mathrm{R_\infty})^2(\mathrm{G_N}) * (\mathrm{m_e})(\mathrm{R_\infty})^2(\mathrm{G_N}) , \end{cases}$$

不要怀疑我抄书本上的公式了，书上没有这个东西，也不要量纲不对就不看了，我们先假设它们是对的，然后看它能推导出什么好吗，也不要再说数值等价是巧合，因为它在现有的物理体系里是自洽的，如果你一点儿好奇心都没有，物理不适合你，去卖烧饼吧。

然后，我最近发现可能还有最本质的物理等式，因为它可以用最少的物理常量表示，即，

$$\begin{cases} \dfrac{(\mathrm{m_{atom}})(\mathrm{c})^2}{(\mathrm{r_{atom}})} = \dfrac{[\alpha_o](\mathrm{c})(\mathrm{r_e})(2\pi)^4}{(\mathrm{a_0})} , \\ \dfrac{(\mathrm{e_o})}{2(\mathrm{r_{atom}})} = (\mathrm{R_\infty})^3(\mathrm{a_0})^3(2)^3(2\pi)^6 , \\ \dfrac{(\mathrm{m_e})[\alpha_o]^2(\mathrm{c})^2}{2(\mathrm{r_e})} = (\mathrm{c})2(\mathrm{r_{atom}})(2\pi)^4 , \end{cases}$$

可能有人会说，虽然它看起来很美，但是量纲不对。然而我想说的它是对的，我们拿汇率当例子，那么这里的距离半径和时间就是汇率中的黄金，它们才是物理中的一般等价物，你说不对，只是因为你不会换算汇率。

如果你还是不相信，我把上面的物理汇率带入方程里，这样你就能更明白物理方程的含义。

首先，拿薛定谔方程当做例子，

薛定谔方程有，$\dfrac{-(\hbar)^2}{2(\mathrm{m_x})}\nabla^2\Psi + \mathrm{U}\Psi = \mathrm{E}\Psi,\ \mathrm{i}(\hbar)\dfrac{\partial}{\partial \mathrm{t}}\big|\,\psi >= \hat{\mathrm{H}}\,\big|\,\psi >,$

那么现在它们就可以等价于，$\frac{(\mu_B)(m_e)}{4\pi(R_\infty)^2(m_x)}\nabla^2\Psi + U\Psi = E\Psi$，$(m_e)(R_\infty)(G_N)\frac{\partial}{\partial t}|\psi> = -2\pi i\hat{H}|\psi>$，

然后，爱因斯坦方程和黑体辐射公式也能联系到一起，

爱因斯坦方程为，$(G_{đb}) = (\check{R}_{đb}) - \frac{1}{2}(g_{đb})(\check{R}) = \frac{8\pi(G_N)}{(c)^4}(\check{T}_{đb})$，

黑体辐射公式为，$I_\nu(\nu,T) = \frac{2(h)(\nu)^3}{(c)^2\left(e^{\frac{(h)(\nu)}{(T)(K_B)}}-1\right)}$，$\upsilon_\nu(\nu,T) = \frac{8\pi(h)(\nu)^3}{(c)^3\left(e^{\frac{(h)(\nu)}{(T)(K_B)}}-1\right)} = \frac{8\pi(G_N)(R_\infty)(m_e)(\nu)^3}{(c)^3\left(e^{\frac{(e_o)(c)(\nu)}{(T)}}-1\right)} = \frac{8\pi(G_N)(R_\infty)(m_e)(\nu)^3}{(c)^3\left(e^{\frac{(R_\infty)(m_e)[\alpha_o]^2(c)^2(\nu)}{(T)}}-1\right)}$，

所以，它们联系在一起，可以有，$\Longrightarrow \left\{\frac{(R_\infty)(m_e)(\nu)^3(c)^4}{(c)^3\left(e^{\frac{(R_\infty)(m_e)[\alpha_o]^2(c)^2(\nu)}{(T)}}-1\right)}\right\}(G_{đb}) = \left\{\frac{(e_o)(c)^2(\nu)^3}{[\alpha_o]^2(c)^2\left(e^{\frac{(R_\infty)(m_e)[\alpha_o]^2(c)^2(\nu)}{(T)}}-1\right)}\right\}(G_{đb}) = \left\{\frac{(e_o)(c)^2(\nu)^3}{[\alpha_o]^2(c)^2\left(e^{\frac{(R_\infty)(m_e)[\alpha_o]^2(c)^2(\nu)}{(T)}}-1\right)}\right\}\{(\check{R}_{đb}) - \frac{1}{2}(g_{đb})(\check{R})\} = \{\upsilon_\nu(\nu,T)\}(\check{T}_{đb})$ ，

最后再说一下基本电荷，如果有，$Q = \int\frac{d^3p}{(2\pi)^3}\sum_s\left(a_p^{s\dagger}a_p^s - b_p^{s\dagger}b_p^s\right) = (e_o)$，

那么按照上面的说法，就可以有，$\Longrightarrow \frac{(m_{atom})(G_N)}{(a_0)^2} = \int d^3p\sum_s\left(a_p^{s\dagger}a_p^s - b_p^{s\dagger}b_p^s\right)$ ，

或者，$\Longrightarrow (R_\infty)^3(a_0)^3(2)^3(2\pi)^9 = \int\frac{d^3p}{2(r_{atom})}\sum_s\left(a_p^{s\dagger}a_p^s - b_p^{s\dagger}b_p^s\right)$ ，

其中，(c)是光速，(e_o)是基本电荷，$[\alpha_o]$是精细结构常数，(R_∞)是里德伯常数，(a_o)是玻尔半径，(m_{atom})是基本原子质量，(m_e)是电子静止质量，(G_N)是万有引力常数，(r_e)是电子半径，(r_{atom})是质子半径。

参考文献：1，https://doi.org/10.5281/zenodo.4779601，

2，https://doi.org/10.5281/zenodo.5059941，

3，https://doi.org/10.5281/zenodo.4518870。

New representation method of three physical equations

HuangShan

(Wuhu Institute of Technology, China, Wuhu, 241003)

Abstract: The new explanation of electronic stationary quality and basic charges, then Schrödinger equation, Einstein equation, and black radiation formula will have a new representation method.

Key words: Schrödinger equation, Einstein equation, black body radiation formula.

About a year ago, I think this may be the most basic physical equality, that is,

$$\begin{cases} \dfrac{(m_e)(R_\infty)(G_N)}{(a_0)} = 2\pi(m_e)[\alpha_o](c) \ , \\ \dfrac{(e_o)(R_\infty)}{4\pi(\varepsilon_0)(a_0)} = (c) \ , \\ \dfrac{1}{2}(m_e)[\alpha_o]^2(c)^2 = \dfrac{(m_{atom})(c)^2}{2\pi(R_\infty)} \ , \end{cases}$$

Maybe you have to add these, that is,

$$\begin{cases} \dfrac{(e_o)^2(R_\infty)}{4\pi(\varepsilon_0)(a_0)} = \dfrac{(m_e)(R_\infty)(G_N)}{(K_B)} \ , \\ 2\pi(\mu_B)(m_e) = (m_e)(R_\infty)^2(G_N) * (m_e)(R_\infty)^2(G_N) \ , \end{cases}$$

Don't doubt the formula of my copy book, there is no such thing in the book, and don't look at it because the dimension is not right, let's assume that they are right, then see what it can be derived, don't say anything The value is equipped, because it is self-contained in the existing physical system, if you don't have a curiosity, physical is not suitable for you, go to sell bakes.Then, I have recently found that there may be the most essential physical equation because it can be represented by the least physical constant, that is,

$$\begin{cases} \dfrac{(m_{atom})(c)^2}{(r_{atom})} = \dfrac{[\alpha_o](c)(r_e)(2\pi)^4}{(a_0)} \ , \\ \dfrac{(e_o)}{2(r_{atom})} = (R_\infty)^3(a_0)^3(2)^3(2\pi)^6 \ , \\ \dfrac{(m_e)[\alpha_o]^2(c)^2}{2(r_e)} = (c)2(r_{atom})(2\pi)^4 \ , \end{cases}$$

Some people may say, although it looks beautiful, the dimension is not right. However, it is right, we take the exchange rate as an example, then the distance radius and time here are gold in exchange rates, they are general equivalents in physics, you are not right, just because you will not convert exchange rates.

If you still don't believe, I bring the above physical exchange rate into the equation so you can understand the meaning of physical equations.

First of all, let's make examples of Schrödinger square, that is,

$$\frac{-(\hbar)^2}{2(m_x)}\nabla^2\Psi + U\Psi = E\Psi, \qquad i(\hbar)\frac{\partial}{\partial t}|\psi> = \hat{H}|\psi>,$$

So now they can be equal,

$$\frac{(\mu_B)(m_e)}{4\pi(R_\infty)^2(m_x)}\nabla^2\Psi + U\Psi = E\Psi, \qquad (m_e)(R_\infty)(G_N)\frac{\partial}{\partial t}|\psi> = -2\pi i\hat{H}|\psi>,$$

Then, Einstein equations and black-body radiation formulas can then be connected together.

Einstein equation is, $(G_{ab}) = \left(\check{R}_{ab}\right) - \frac{1}{2}(g_{ab})(\check{R}) = \frac{8\pi(G_N)}{(c)^4}\left(\check{T}_{ab}\right),$

The Black-body radiation formula is, $I_\nu(\nu,T) = \frac{2(h)(\nu)^3}{(c)^2\left(e^{\frac{(h)(\nu)}{(T)(K_B)}}-1\right)}, \upsilon_\nu(\nu,T) =$

$$\frac{8\pi(h)(\nu)^3}{(c)^3\left(e^{\frac{(h)(\nu)}{(T)(K_B)}}-1\right)} = \frac{8\pi(G_N)(R_\infty)(m_e)(\nu)^3}{(c)^3\left(e^{\frac{(e_o)(c)(\nu)}{(T)}}-1\right)} = \frac{8\pi(G_N)(R_\infty)(m_e)(\nu)^3}{(c)^3\left(e^{\frac{(R_\infty)(m_e)[\alpha_o]^2(c)^2(\nu)}{(T)}}-1\right)}.$$

So, they link together, there can be, $\Longrightarrow \left\{\frac{(R_\infty)(m_e)(\nu)^3(c)^4}{(c)^3\left(e^{\frac{(R_\infty)(m_e)[\alpha_o]^2(c)^2(\nu)}{(T)}}-1\right)}\right\}(G_{ab}) =$

$\left\{\frac{(e_o)(c)^2(\nu)^3}{[\alpha_o]^2(c)^2\left(e^{\frac{(R_\infty)(m_e)[\alpha_o]^2(c)^2(\nu)}{(T)}}-1\right)}\right\}(G_{ab}) = \left\{\frac{(e_o)(c)^2(\nu)^3}{[\alpha_o]^2(c)^2\left(e^{\frac{(R_\infty)(m_e)[\alpha_o]^2(c)^2(\nu)}{(T)}}-1\right)}\right\}\{\left(\check{R}_{ab}\right) -$
$\frac{1}{2}(g_{ab})(\check{R})\} = \{\upsilon_\nu(\nu,T)\}\left(\check{T}_{ab}\right).$

Finally, let's talk about basic charges, if, $Q = \int\frac{d^3p}{(2\pi)^3}\sum_s\left(a_p^{s\dagger}a_p^s - b_p^{s\dagger}b_p^s\right) = (e_o),$

So, according to the above statement, you can have, $\Longrightarrow \frac{(m_{atom})(G_N)}{(a_0)^2} =$
$\int d^3p\sum_s\left(a_p^{s\dagger}a_p^s - b_p^{s\dagger}b_p^s\right)$, or, $\Longrightarrow (R_\infty)^3(a_0)^3(2)^3(2\pi)^9 = \int\frac{d^3p}{2(r_{atom})}\sum_s\left(a_p^{s\dagger}a_p^s -\right.$
$\left.b_p^{s\dagger}b_p^s\right)$.

Where (c) is the Speed of light, (e_o) is the Elementary charge, $[\alpha_o]$ is the Fine structure constant, (R_∞) is the Rydberg constant, (a_o) is the Bohr radius, (m_{atom}) is the Basic atomic mass, (m_e) is the Electron rest mass, (G_N) is the Gravitational constant, (r_e) is the Radius of electron, (r_{am}) is the Radius of proton.

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